AMERICAN
MECHANICS' MAGAZINE,
Museum, Register, Journal and Gazette.

Vol. II —No. 45.] SATURDAY, FEB. 11, 1826. [FOUR DOLLS. PER AN.

MOTION ON RAILWAYS.

SIR,—Having read a pamphlet by the editor of the *Scotsman*, in which he sets forth a most extraordinary doctrine respecting accelerating forces, and their effects upon a wagon on a railway, permit me, through your useful miscellany, to state my opinion upon the subject.

Suppose a wagon to be so constructed as to be impelled by a wheel within it, somewhat like a tread mill, and upon this wheel a man were to be placed to give motion to it; suppose the weight of the man's body to be two hundred pounds, and that the weight of one hundred pounds were sufficient to put it in motion; it is evident that there would be a surplus, or disposable power, of one hundred pounds to accelerate the machine; therefore, according to the Scotsman, the motion could be increased in time, "beyond any assignable limit."

This I do not deny, providing that the man could increase his speed in the same ratio, without increasing his labour; but without this the motion would be uniform, and commensurate with the utmost speed the man could move at in giving it motion.

Now, according to what the Scotsman holds, the man's weigh would be the power, which only he takes into the calculation, without considering the speed at which he would be obliged to travel, to communicate a given motion to the machine. He supposes the power the same at every rate of motion which, at a superficial view, it appears to be, as the man's weight is the same, at whatever rate he moves: but it is clear that his labour would be doubled, by walking twice as fast, to communicate a double motion to the machine, which is the same as a double power.

My view of the subject is this, that the man being able, with the half of his weight, to give motion to the machine, he has a store of power in the other half to give it what velocity he pleases, or, to speak more correctly, to give it what velocity he can keep pace with. Suppose that, at first, he gives it a velocity of two miles an hour, and the wheel upon which he travels to make the same number of revolutions as the wheels upon the rail road, and of equal diameter, it is evident that he would travel at the rate of two miles an hour: it is also evident that he must travel at the same rate; therefore his exertions are doubled, or the power expended (though in the same space of time) doubled. To suppose otherwise, would be to suppose an effect would be produced without a cause.

AEROLITE.

At a sitting of the Royal Academy of sciences in Paris, M. Humboldt presented to the Academy a fragment of a mass of meteoric iron, which was found in Columbia, at a short distance from Santa Fe de Bogota, near the summit of a mountain. The entire mass weighed 3500 pounds, and required great labour to remove it to the forge of a smith, who bought it for about five pounds, and who began by smelting a part of it with the intention of employing it for the use of his trade. Having, however, found it too brittle for his purposes, he gave up the idea of working it, and even concealed the remainder of it through a fear lest his credit might be injured if it were known he employed such an inferior article. Fortunately an eminent naturalist, M. Humboldt's correspondent, having accidentally learned the secret, obtained the mass of iron and analysed a part of it. The result of this analysis, by proving the existence of a certain quantity of *nickel* midgled with the ore, has put the

aerial origin of this mass beyond a doubt.—The aerolite of which M. Humboldt has presented a fragment to the academy, is one of the most curious mentioned in the history of science.

SINGLE-WHEEL CLOCK.

Sir,—In your valuable Magazine, Number 41, page 234 there is a description of a Single-Wheel Clock, an article I have long desired to be in possession, of but have two great objections to the one therein described. First because it only shows the hours; and, secondly, becase a friend of mine in the country had one of the very same kind, and would never keep time within one hour and a half in twelve hours; but I am happy to say, Sir, that I am certain of having my desires gratified, as I have, through the medium of a friend, been favoured with a sight of one newly invented which shows the hours and minutes, and can also be made to show the seconds: and I have no doubt that these clocks will keep the most accurate time. There is something peculiarly interesting in this new invention; first, the neatness aud elegance with which they may be made; secondly, the contrivance adopted for distributing the power equally; thirdly, the singular action applied to the dial-work, to keep the hands going correctly; lastly, that any person can take them to pieces, and put them together again in a few minutes; in short, Sir, I am free to confess, that I have not seen any thing that has gratified me more for some time past. But I must not be too liberal in giving a description as I am informed by the inventor, that he intends, at the request of several of his friends, to exhibit it for public inspection.

Your obedient servant, S. T.

PREPARING DRAWING PAPER.

Reduce to a powder, and dissolve quickly in a glazed earthen vessel, containing cold water, some gum adgagant, having been well worked with a wooden spatula to free it from lumps. There must be sufficient quantity of water to give to this diluted gum the consistence of a jelly. Paper, and some sorts of stuffs, upon which, if this composition be smoothly applied with a pencil, or a brush, and dried before a gentle fire, will receive either water or oil colours; in using water colours, they must be mixed with a solution of the above gum. This cloth or paper, so prepared, will take any colour except ink. When it is intended to retouch any particular part of the drawing, it should be washed with a sponge, or clean linen, or a pencil (containing some of the above mentioned liquid;) if the part is only small, it will then rise quickly and appear as if repainted.

BURMESE IMPERIAL STATE CARRIAGE.

The Burmese State Imperial Carriage, which has been captured in the present sanguinary Indian war, has reached this country, and is now preparing for public exhibition. It is said to be, without exception, one of the most singular and splendid works of art that can possibly be conceived, presenting one entire blaze of gold, silver, and precious stone; of the latter the number must amount to many thousands, comprehending diamonds, rubies, sapphires (white and blue,) emeralds, amethysts, garnets, topas, cat eyes, crystals, &c. The carving is of a very superior description, the form and construction of the vehicle extraordinary, and the general taste displayed throughout the whole design is at once so grand and imposing, yet at the same time so chaste and refined, that we are told it may defy all rivaly even from European workmanship. The warlike power and resources of this surprising people at present exciting universal astonishment and attention: this new object attests the fact that, in taste for design, and skill in execution of works of art, their talents have been equally hidden and unknown to us. The carriage stands between twenty and thirty feet in height, and is drawn by elephants.

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IN A FEW DAYS WILL BE PUBLISHED.

THE

FRANKLIN JOURNAL,

AND

AMERICAN MECHANICS MAGAZINE,

DEVOTED TO THE MECHANIC ARTS, INTERNAL IMPROVEMENTS AND GENERAL SCIENCE.

Under the patronage of the Franklin Institute of the State of Pennsylvania.

EDITED BY DR. THOMAS P. JONES,

PROFESSOR OF MECHANICS IN THE INSTITUTE.

ADDRESS.

The prospectus of the 'Franklin Journal' has been for some months before the public; at the time it was issued the Editor resided in a distant part of the United States, and was engaged in a pursuit which prevented his removal to Philadelphia until the commencement of the present year. It was his intention to publish the first number early in January; this however, he has not been able to effect; yet he has thought it better to antidate it a month, as he will in the course of the year complete twelve numbers, making two volumes of nearly four hundred pages each.

It was at first proposed to publish a single sheet every week, after the manner of the "Mechanics' Magazine," and other similar work published in London; but the Editor has upon mature consideration deemed it expedient to make it a monthly, instead of a weekly publication; and he presumes that the reasons which have weighed with him in making this alteration, will be satisfactory to his subscribers generally. He is unwilling that this Journal should be a mere book of recipes and notices, "a thing of shreds and patches," this would neither satisfy the Editor, or supply the wants of the intelligent artisans and manufacturers of our country. Every number will contain a variety of processes in the mechanical and chymical arts; but it is intended also to insert articles of general interest, and of greater length than would be found convenient on a single sheet: it is also designed to embrace a greater variety of topics than was at first contemplated, and in general to devote a part of every number, to each of the leading subjects included in the work.

Under the following heads will be introduced a great variety of matter, interesting to the artisan and to the man of general reading.

1st. The transactions of the Franklin Institute, and of other similar establishments.—2nd. Mechanics and Natural Philosophy.—3d. Chemistry particularly in its application to the arts.—4th. American Inventions and discoveries, whether patented or not.—5th. American Manufactures.—6th. Internal improvements.—7th. Natural History.—8th. Mineralogy.—9th. Botany.—10th. Mathematics.—11th. Architecture.—12th. Rural Economy.—13th. Education.

13th. Husbandry and Rural affairs, particularly as regards the implements used, and the production of silk, wool, cotton, dye-stuffs, and other articles employed in manufactures.—14th Mechanical Jurisprudence.—15th. Foreign Journals, inventions, discoveries, and patents.—16th Notices and Reviews of publications relating to the Arts and Manufactures.—17th Miscellaneous articles, consisting of recipes, processes, &c.

It will readily be perceived that a number of subjects are mentioned, with which the Editor cannot pretend to be familiarly acquainted; he has not however "reckoned without his host," as he is assured of the aid of gentlemen, whose stations and talents are a sufficient pledge for the able manner in which they will fulfil their engagements. All the articles of general interest, emanating from the Society for the encouragement of Internal Improvements," will pass through the hands of the Editor, and will occupy a portion of every number. The journals of our own country, devoted to science and the mechanic arts, and those of England, France, and Germany, will be carefully examined, and their most useful materials employed; when not written in a style intelligible to the generality of readers, they will be in this respect altered, and when unnecessarily prolix, abridged.

Gentlemen who furnish communications for the Franklin Journal, are requested always to keep in view, that its main object is to diffuse information among artisans and manufacturers; and it is therefore necessary to write in a style as familiar, and as little technical as the nature of the subject will admit. The Editor will claim and exercise the right of acting according to his own judgment respecting every article communicated for publication; and when the authors unknown, he will either insert, reject, alter or abridge, as he may deem best. He earnestly solicits the aid of intelligent mechanics and manufacturers, and assures them that although they may not always be as ready with the pen as with the implements of their respective trades, their offerings will be acceptable, and that the labour of revision, when requisite, will be cheerfully performed.

The spirit of secrets in arts and trades has nearly passed away; in these pursuits, as well as in that of commerce, liberal views are generally entertained, and a free and open intercourse is acknowledged to be the best policy. The Journal will be a ready vehicle for enquiries and replies upon all subjects within its purview: and will enable the artisans and others, to obtain information which might otherwise be sought in vain.

Patentees who wish to make their inventions known through the medium of the Journal, will be expected in all instances to furnish the plates or cuts necessary for that purpose; and must submit to a free, but liberal examination into the originality and merits of their invention.

The Editor will willingly open his work to the discussion of every subject upon which it treats; in doing this he will carefully avoid appearing as a partisan but will act as moderator so far as to prevent his pages from being sullied by malevolence, or offensive personalities.

CONDITIONS.—The Journal will be published monthly, each number will contain sixty-four pages, octavo, forming, annually, two volumes of nearly four hundred pages each. It will be printed on good paper, with well executed engravings on wood, and occasionally on copper.

Subscription $1 per annum, payable on the completion of the first volume. Single numbers 10 cents each. Subscribers in the city will be served by a carrier; those at a distance, may receive it by mail, or in any way they may direct.

Advertisements relating to the Mechanic Arts, will be inserted on the covers, on the usual terms.

All communications must be post paid, and may be addressed to the Editor or to Judah Dobson, Agent, No. 103 Chesnut-street Philadelphia.

The Editor has made arrangement with the proprieter of the "American Mechanics' Magazine," published in New-York, by which that work is transferred to him. The Franklin Journal will issue in Philidelphia and in New-York on the same day, and the subscribers to the Magazine will be regularly served with the Journal. Communications will be received by S. C. Schenk, 252 Broadway; who will immediately transmit them to the Editor.

At a meeting of the Franklin Institute held January 19th, 1826 it was on motion,

Resolved, "That the meeting view with pleasure, the prospect of the Franklin Journal being issued by so able an Editor as the professor of Mechanics to the institute, and reccommend it to the support of their fellow citizens."

S. V. MERRICK, *Secretary*